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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,199	06/27/2002	John Canning	P07482US00/MP	2632

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EXAMINER

LIN, TINA M

ART UNIT PAPER NUMBER

2874

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,199

Applicant(s)

CANNING, JOHN

Examiner

Tina M Lin

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ~~1~~ ☒ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
- 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2421490 2
05/26/2003
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other.

DETAILED ACTION

Receipt from the International Bureau is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) in this National Stage Application, which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 6, and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,164,956 to Lang. In regards to claims 1 and 2, Lang discloses a grating structure with a first order grating superimposed with a second order grating. But Lang fails to disclose the grating structure to be composed of a material having an index of refraction variation. However, from Figure 3c, it can be seen that that grating structure is being composed of a graded index layer. The graded index layer (GRIN layer) by definition is a layer with a refractive index variation. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a grating structure being composed of a material with a refractive index variation. In regards to claims 6, 8, 11, 13 and 14, Lang discloses all discussed above as applied to claim 1, but fails to disclose the grating structure to be used in a filter, coupler, sensor or a dispersion compensating device. However, Lang does disclose the grating device to be used as a source for optical interconnects or to couple light. Furthermore, the graded index layer of the device can be used for a filtering purpose. Therefore, it would have

been obvious at the time the invention was made to a person having ordinary skill in the art to have used the grating device in a filter, coupler, sensor or dispersion compensating device since the grating portion of the device can be coupled within the above the devices and the grating device can function as a part in any of the above devices. In regards to claims 9, 10 and 12, Lang discloses all discussed above but fails to disclose a first grating structure formed on the first waveguide and a second grating structure formed on the second waveguides. However, although Lang does not distinguish the waveguide core and cladding to be a single waveguide or two waveguides, Lang does disclose that the gratings can be coupled together. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used either a single waveguide with two gratings on them or to couple two waveguides together each with their individual gratings.

Claims 3-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,164,956 to Lang as applied to claim 1 above and in further view of U.S. Patent 6,072,926 to Cole et al. Lang discloses all discussed above but fails to disclose at least one of the waveguide gratings to be chirped, sampled or apodised. However, Cole et al. discloses an optical waveguide grating with either a chirped or apodised grating. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have either used a chirped or apodised grating in the grating structure. Furthermore, since Applicant claims either a chirped, sampled or apodised grating, it is not critical that one of the grating types must be used in the grating structure. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a chirped,

sampled, or apodised grating in the grating structure since it is a non-critical aspect of the invention.

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449.

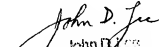
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B and C discuss other methods and applications where grating structures with imposed gratings are used.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (703) 305-1959. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


TML


John D. Lee
Primary Examiner